REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

Claims 47, 48-60, 62-74, 76, 78, 79, 81, 84, 86, 88, 93-96 and 98 are rejected, under 35 U.S.C. § 102(b), as being anticipated in view of Joseph et al. `297, Cowley et al. `214, Hall-Jackson `798, Bennett et al. `472 or obvious, under 35 U.S.C. § 103, in view of the above art in combination with either Hickle `965, Hattes `899 and/or Gusakov `459. The Applicant acknowledges and respectfully traverses the raised anticipatory and obviousness rejections in view of the following remarks.

In addition, claim 100 is rejected, under 35 U.S.C. § 102(b), as being anticipated in view of Hattes `899. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

According to the present invention, the motion signal is being actively monitored all of the time and analyzed to determine what the motion indicates about the patient. The invention concerns the type of motion that is occurring. The prior art documents of record merely disclose passive monitors which merely determine the presence of a patient, e.g., whether or not a patient is present in a bed, or whether or not a patient is present in a room. None of these documents of record disclose any means for monitoring a motion signal and analyzing that motion signal to determine symptoms indicated by a particular type of motion of the patient (such as arousal or painfulness).

Independent claims 47, 62, 96 and 98 are amended to include the explicit limitation that the sensor arrangement produces a motion signal which is analyzed to determine whether or not the motion of the patient is indicative of patient arousal (see claims 47 and 62) or that the patient is displaying signs of painfulness (see claims 96 and 98). Such amendments make absolutely clear that the present invention requires an analysis of a motion signal so as to make a determination as to particular "characteristic" that the patient may be displaying (arousal or painfulness) by such motion.

The Examiner submits that the device, as disclosed in the applied citations, would be capable of monitoring for arousal or painfulness. The Applicant respectfully submits that this, in fact, is not the case. In order to be capable of monitoring for such symptoms, the device would need to include means for not only detection motion but also for analyzing motion signals. None of the applied citations is believed to in any way teach, suggest or disclose that such a motion analysis mean should be included as part of any device.

It is quite clear from the description of the present invention in the application specification, in particular at page 5, line 16 onwards and throughout the remaining description, that the present invention is concerned with a complex analysis of the motion signal. For example, "painfulness" is detected by analyzing whether the motion is "jerky" or otherwise indicative of a painful movement. Similarly, arousal may be indicated by an increase of the motion signal (i.e., increase in frequency) over a base line frequency. It is respectfully submitted that such complex analyses are not carried out by any of the devices disclosed in the applied prior art citations.

As further illustration, the attached document, entitled "Signal Analysis," indicates various different types of signal analysis. Types A and B are simple binary detection processes monitoring for changes. No motion signal is analyzed. The detection is merely looking for a simple on/off event. This is the type of monitoring which is applied by the devices of the prior art citations of record in this case.

Examples C and D, relate to complex analysis of motion signals, such as may be applied by the present invention (in particularly D). This type of complex analysis is required by the present invention, and is not in any way taught, suggested or disclosed in the prior art citations applied by the Examiner.

With respect to claim 100, Hattes `899 is not believed to teach, suggest or disclose all of the features of that claim and, in particular, the features of "[a] method of monitoring a patient under medical care, the method comprising the steps of: placing a first electrode and a second electrode on opposed sides of the patient's chest to detect motion of a chest wall of the patient; producing a signal each time a distance between the first and second electrodes increases and

decreases indicating the motion of the chest wall of the patient; determining a baseline rate of the signals depending on a frequency of the signals produced; and providing one of an audio or visual alarm when a subsequent signal is determined to be outside a baseline rate range."

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Joseph et al. `297, Cowley et al. `214, Hall-Jackson `798, Bennett et al. `472, Hickle `965, Hattes `899 and/or Gusakov `459 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,

Michael J. Bujold, Reg. No. 32,018
Customer No. 020210
Davis & Bujold, P.L.L.C.
Fourth Floor
500 North Commercial Street
Manchester NH 03101-1151
Telephone 603-624-9220
Facsimile 603-624-9229
E-mail: patent@davisandbujold.com

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SIGNAL ANALYSIS

A. Detector of a *Simple temporal* change
This is a binary process — normally motion was either happening or not happening; at some point the state of the device detecting motion changed (ceased or started respectively) causing a alarm to be issued by the detector
(Device example – mercury switch)

stop
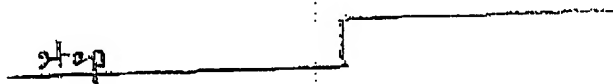
B. Detector of a *Combinatorial temporal and spatial or temporal and other parameter change*
This is a sequential binary process — — normally motion was either happening or not happening; at some point the state of the device detecting motion changed (ceased or started respectively). This change, in algorithmic combination with some additional spatial or other parameter conditions causes an alarm to be issued by the detector
(Device example – mercury switch *in combination* with door entry switch or video or .....)

for alarm state need 2nd
condition
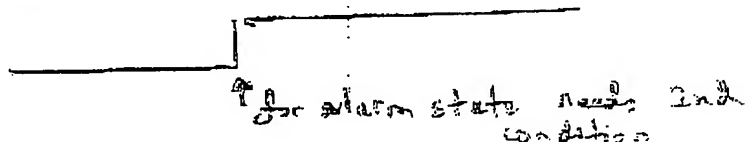
C. Detector *of Signal change*
An historical record is maintained of an analogue temporal signal from a motion detecting device – the signal is continuously analysed in the time, frequency, wavelet or other domain for a change of information content or by pattern recognition in that domain. This change causes an alarm to be issued by the detector
(Device example – microwave gunn diode motion detector .. birthing "contractions" band ..)

Voltage
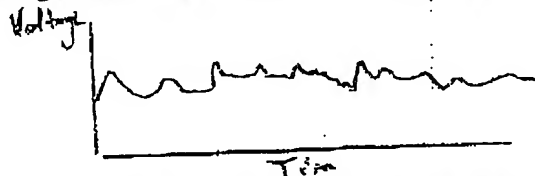
Time

D. Detector of *Combinatorial Signal change and spatial or other parameter change*
An historical record is maintained of an analogue temporal signal from a motion detecting device – the signal is continuously analysed in the time, frequency, wavelet or other domain for a change of information content or by pattern recognition in that domain. This change, in algorithmic combination with some additional spatial or other parameter conditions causes an alarm to be issued by the detector
(Device example – Infra red detector in combination with a respiration and pulse signal)

V

T

pulse

Resp.

Trend

analysis